

REMARKS

By this Amendment, Applicants have canceled claims 14 and 20 without prejudice or disclaimer, and amended claims 13 and 18. No new matter has been added. Claims 13, 15-19, and 21-24 are pending in the application.

In the Office Action, the Examiner rejected claims 13, 15-19, 21, and 24 under 35 U.S.C. § 102(b) as being anticipated by Noritaka (JP 11-214489); rejected claims 13, 15, 18, and 19 under 35 U.S.C. § 102(b) as being anticipated by Fumio et al. (JP 07-231028); rejected claims 14 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Noritaka or Fumio et al. in view of Takashi (JP 05-332456); and indicated that claims 22 and 23 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 13 and 18 are the only independent claims pending in this application, and Applicant has amended those claims by this Amendment, thereby obviating the above-outlined rejections. To the extent, however, that the Examiner may consider rejecting either amended claim 13 or amended claim 18 based on the Noritaka, Fumio et al., and Takashi references, taken either individually or in combination, such a rejection would be improper because those references do not disclose or suggest all of the subject matter recited in either independent claim 13 or independent claim 18. See M.P.E.P. §§ 2131, 2143.

Amended Independent Claim 13

In the Office Action, the Examiner rejected independent claim 13 under 35 U.S.C. § 102(b) as being anticipated by Noritaka, and under 35 U.S.C. § 102(b) as being anticipated by Fumio et al.

Applicants' invention as recited in amended independent claim 13 is directed to a vacuum device including a driven body provided within a vacuum chamber, a driving means provided outside the vacuum chamber, which rotates and moves up/down the driven body, and a drive shaft connecting the driven body to the driving means to transmit a drive force of the driving means to the driven body. The vacuum device further includes a first annular body secured to the drive shaft inside the vacuum chamber, which rotates around an axial center thereof, a second annular body rotatably supported by the first annular body and moving up/down with the first annular body as one body, a bellows capable of expanding/contracting, which is provided within the vacuum chamber so as to airtightly seal the periphery of the drive shaft, with one end thereof secured to the second annular body and with another end thereof secured to an inner wall of the vacuum chamber, and a first seal member provided between the drive shaft and the second annular body.

The Noritaka, Fumio et al., and Takashi references, taken individually or in combination, do not disclose or suggest a vacuum device including, among other things, a first annular body secured to a drive shaft inside a vacuum chamber, which rotates around an axial center thereof.

In the Office Action, the Examiner interprets the Noritaka reference as disclosing "[a] first annular body (3a) that is secured to a drive shaft inside a vacuum chamber[,] a second annular body (4a) rotatably supported by said first annular body and moving up/down with first annular body as one body." Office Action at 2. The Noritaka reference does not disclose or suggest, however, a vacuum device including, among other things, a first annular body secured to a drive shaft inside a vacuum chamber, which rotates around an axial center thereof. Rather, Noritaka discloses a vacuum

processor having an air cylinder 4A including air gates 4b and 4c for moving shaft 3 up and down through O-rings 4d and 5a. The Noritaka reference does not disclose that the wafer support 2, the “first annular body (3a),” the bellows 6, or the shaft 3 rotates. For at least those reasons, the Noritaka reference does not disclose or suggest all of the subject matter recited in Applicants’ independent claim 13. Therefore, Applicants’ independent claim 13 should be patentably distinguishable from the Noritaka reference.

Turning to the Fumio et al. reference, in the Office Action, the Examiner interprets Fumio et al. as disclosing “a vacuum device comprising a driven body (platform 1), a driving means (stepping motor 33) provided outside the vacuum chamber,” and that the stepping “motor moves the body up/down and allows it to rotate.” Office Action at 3. The Fumio et al. reference does not disclose or suggest, however, a vacuum device including, among other things, a first annular body secured to a drive shaft inside a vacuum chamber, which rotates around an axial center thereof. Rather, Fumio et al. discloses a table 1 for supporting a wafer 5. The table 1 may be moved vertically via a shaft 2 that is rotated by a stepping motor 33. The stepping motor 33 is supported by a frame 30 connected to a slider 4b, which slides vertically on linear guide 4a. The shaft 2 rotates within bearings 31, within fluid seal 34, and within opening 6. The Fumio et al. reference does not disclose the “first annular body 6” secured to the “drive shaft 2” inside the vacuum chamber, which rotates around an axial center of the shaft 2, as asserted by the Examiner, at least because the opening 6 is not a first annular body secured to a drive shaft, which rotates around an axial center thereof. For at least that reason, the Fumio et al. reference does not disclose or suggest all of the subject matter recited in Applicants’ amended independent claim 13.

Therefore, Applicants' independent claim 13 should be patentably distinguishable from the Fumio et al. reference.

Amended Independent Claim 18

In the Office Action, the Examiner rejected independent claim 18 under 35 U.S.C. § 102(b) as being anticipated by Noritaka, and under § 102(b) as being anticipated by Fumio et al.

Applicants' invention as recited in amended independent claim 18 is directed to a vacuum device including a driven body provided within a vacuum chamber, a driving means provided outside the vacuum chamber, and a drive shaft connecting the driven body to the driving means to transmit a drive force of the driving means to the driven body. The vacuum device further includes a rotating body, through which the drive shaft passes, rotatably supported at an opening formed at a wall of the vacuum chamber, and a bellows that connects the driven body to the rotating body so as to airtightly seal the periphery of the drive shaft and is allowed to expand/contract freely as the drive shaft moves up/down and rotates around the drive shaft together with the driven body and the rotating body.

For reasons at least similar to those outlined above with respect to Applicants' independent claim 13, the Noritaka and Fumio et al. references do not disclose or suggest all of the subject matter recited in amended independent claim 18. For at least those reasons, independent claim 18 should be patentably distinguishable from the Noritaka and Fumio et al. references.

Section 103(a) Rejection

In the Office Action, claims 14 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Noritaka or Fumio et al. in view of Takashi et al. By this Amendment, Applicants have canceled claims 14 and 20 without prejudice or disclaimer, thereby obviating the rejection. Furthermore, the Takashi reference fails to overcome the above-outlined deficiencies of the Noritaka and Fumio et al. references.

Conclusions

For at least the reasons set forth above, independent claims 13 and 18 should be allowable. Dependent claims 15-17, 19, and 21-24 depend from those independent claims. Consequently, those dependent claims should be allowable for at least the same reasons their corresponding independent claim is allowable as well as by virtue of their recitations of additional novel and non-obvious subject matter.

Applicants respectfully request the reconsideration of this application, the withdrawal of the outstanding claim rejections, and the allowance of claims 13, 15-19, and 21-24.

If the Examiner believes that a telephone conversation might advance prosecution, the Examiner is cordially invited to call Applicants' undersigned attorney at 571-203-2739.

Applicants respectfully submit that the Office Action contains numerous assertions concerning the related art and the claims. Regardless of whether those assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.

Please grant any extensions of time required to enter this response and charge
any additional required fees to our Deposit Account No. 6-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: September 1, 2004

By: David W. Hill
David W. Hill
Reg. No. 28,220